

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/816,180	HILL, HENRY ALLEN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael A. Lyons	2877	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to original filing of 01 April 2004.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

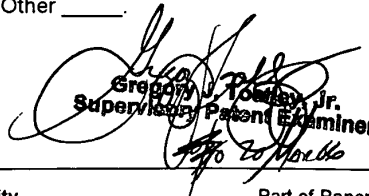
\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date <u>041805</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
|---|--|

  
 Gregory J. Tooley, Jr.  
 Supervisory Patent Examiner

**DETAILED ACTION**

***Allowable Subject Matter***

**Claims 1-20 are allowed in view of the prior art.**

The following is an examiner's statement of reasons for allowance:

As to claim 1, the prior art of record, taken either alone or in combination, fails to disclose or render obvious a method for making interferometric measurements of an object, the method comprising the generation of an input beam with a plurality of component beams, each beam being at a different frequency while being spatially coextensive with each other, some components having a first polarization and the rest having a second polarization, the derivation of a plurality of measurement beams from the plurality of component beams, the focusing of the measurement beams onto a selected spot to produce a plurality of return measurement beams, the combination of each measurement beam with a different corresponding reference beam to produce a plurality of interference beams, and the acquisition of a plurality of electrical interference signal values for the spot, in combination with the rest of the limitation of the above claim.

As to claim 13, the prior art of record, taken either alone or in combination, fails to disclose or render obvious an apparatus for making interferometric measurements of an object, the apparatus comprising a beam generation module that delivers an output beam having a first set of beams at a first polarization and a second set of beams at a second polarization orthogonal to the first, each beam in each set having a different frequency and each beam being coextensive in space, the module also including a beam conditioner that introduces a sequence of different shifts in a selected parameter of each of the beams, the parameter being either phase or

frequency, a detector assembly, and an interferometer that produces a plurality of measurement beams from the output beam of the beam module, the measurement beams focused on a selected spot to produce a plurality of return measurement beams, the beams combined with a plurality of corresponding reference beams to produce interference beams, the beams imaged into the detector assembly, in combination with the rest of the limitations of the above claim.

In particular, the prior art of record, such as US Pat. 6,972,846 to Lal et al discloses much of the method and corresponding apparatus for making interferometric measurements of an object. However, Lal fails to disclose the input beam that is a plurality of component beams, each being at a different frequency and spatially coextensive with each other, some beams having a first polarization and the rest having a second, orthogonal polarization, in combination with the rest of the claimed elements and limitations, as the input beam of the Lal device is of a singular frequency.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 571-272-2420. The examiner can normally be reached on Monday through Friday.

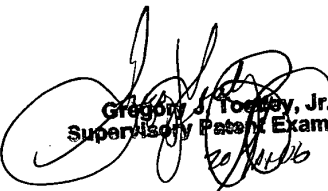
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 10/816,180  
Art Unit: 2877

Page 4

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAL  
March 17, 2006

  
Gregory J. Tolesky, Jr.  
Supervisory Patent Examiner  
20/04/06